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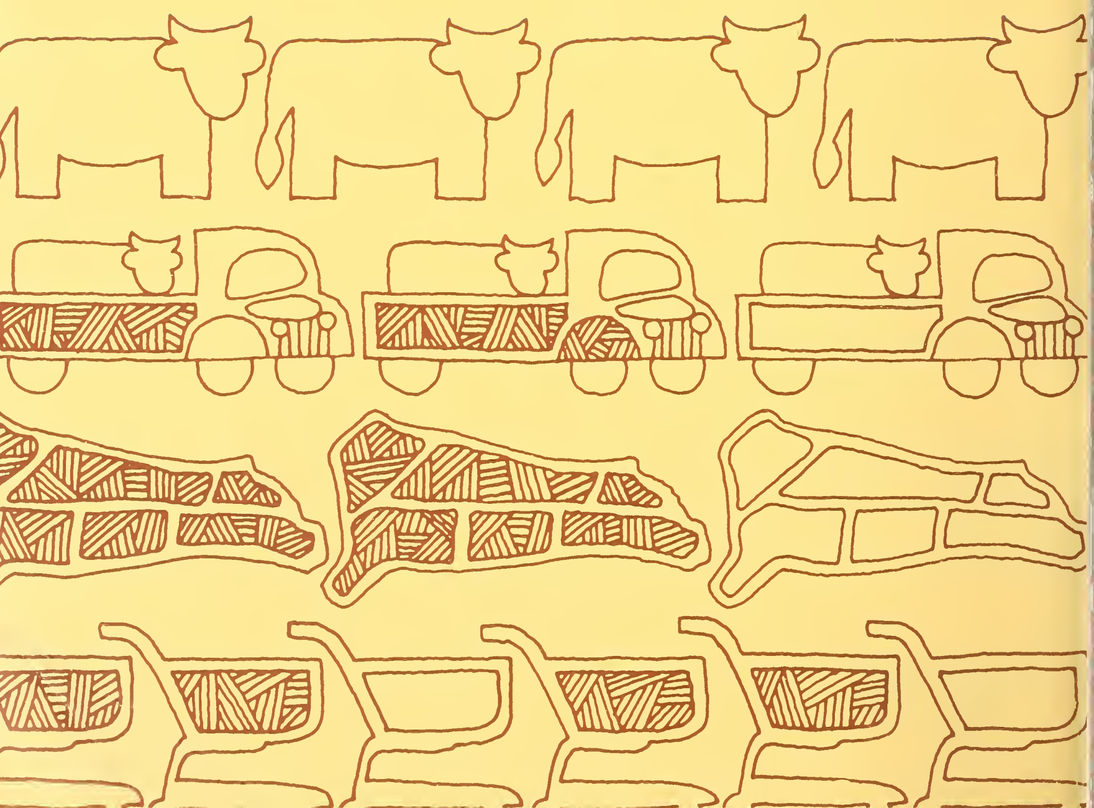
Livestock Industry Trends: Implications for Cooperatives



PREFACE

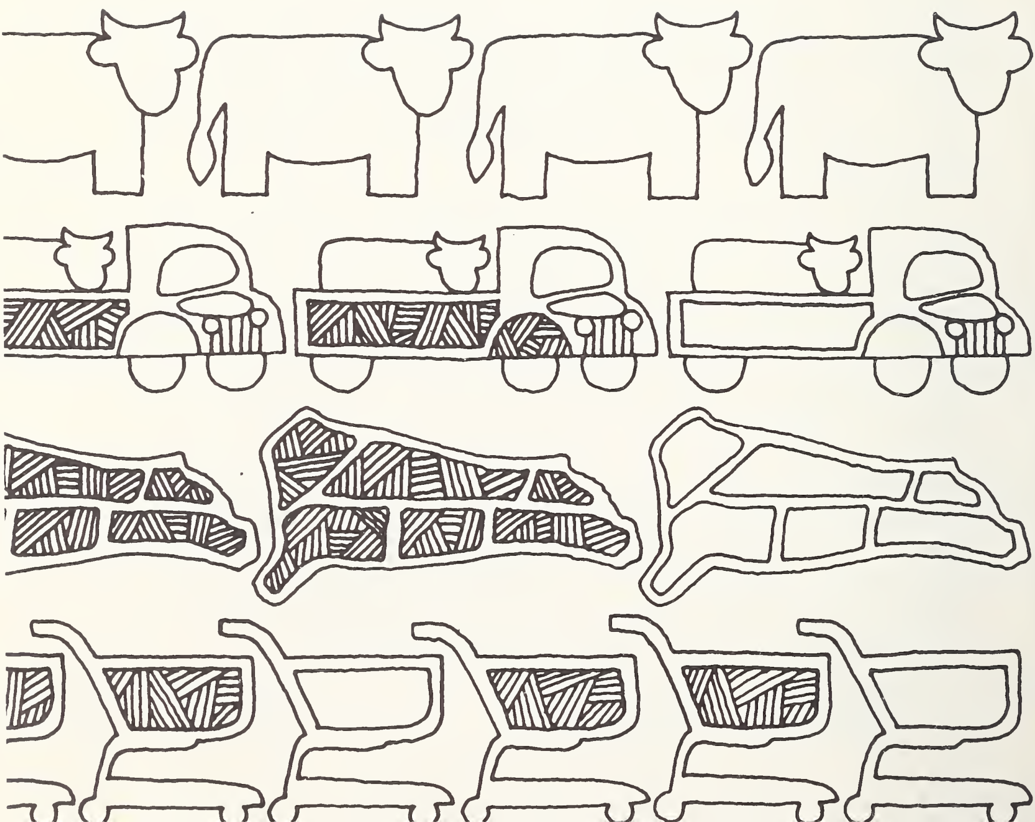
Dynamic changes are occurring in the livestock and meat industry, both in location and methods of production and marketing. It is, therefore, important that cooperatives evaluate their operations and organizational structure to maintain maximum effectiveness.

This report was conducted under a contract between the author and the Farmer Cooperative Service. It is an outgrowth of earlier studies conducted by the author and Robert C. Brown of FCS to discover ways individual livestock cooperatives might improve their operations and services to farmers.

Data were gathered by both literature review and interview. Current publications were studied from the U.S. Department of Agriculture, land-grant universities, and trade journals of the livestock and meat industry. In-depth interviews were conducted with officials of livestock cooperatives, marketing agencies, producer organizations, packers, food chains, and livestock producers. Findings, conclusions, and recommendations come from analyzing and evaluating information collected.

Study objectives were: (1) To review and evaluate major economic trends in the livestock and meat industry, including trends in producing units, the feeding industry, the packing industry, and retail and distribution sectors; (2) to identify and evaluate changes in market structure, pricing arrangements, transportation, and new technologies as they affect marketing of livestock; and (3) to point up implications of these trends for livestock producers and cooperatives and suggest procedures and guidelines for improving operations.

The author wishes to acknowledge the financial support and technical assistance of FCS, and especially the assistance of Marshall R. Godwin, assistant administrator for research; Jack Armstrong, assistant administrator for technical assistance; and Raymond L. Fox, senior economist. The cooperation of various officials of regional units of the National Livestock Producers Association and other trade officials also is gratefully acknowledged.



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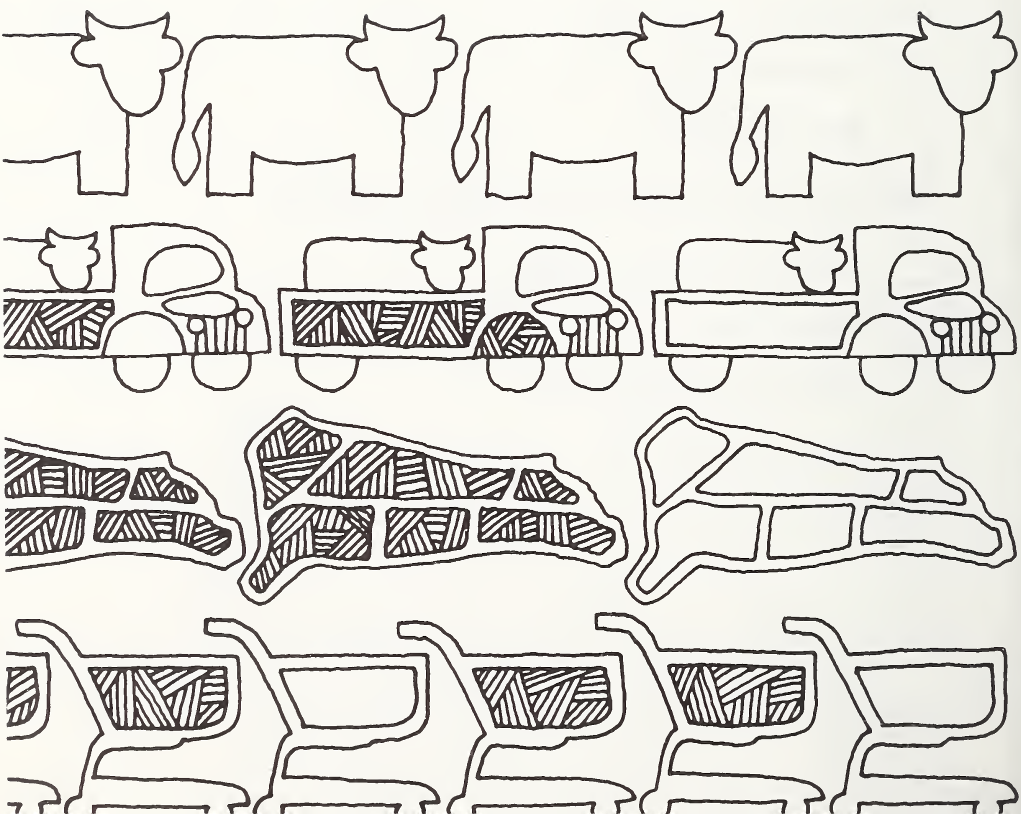

Livestock Industry Trends:

Implications for Cooperatives

By G. Alvin Carpenter[1]

The United States livestock and meat economy is highly complex and interrelated. It consists of thousands of diverse production, marketing, and processing units ranging from giant corporations to small independent producers and distributors. While the various segments have certain common concerns and goals, many diverse interests within the industry are often difficult to reconcile.

In the United States in 1971, there were about 1.8 million cattle producers, 800,000 hog producers, and 200,000 sheep producers. They market about 47 million cattle, 98 million hogs, and 12 million sheep and lambs annually.

Currently about 40 terminal markets, more than 2,000 livestock auctions, thousands of concentration yards, and numerous dealer markets provide facilities and services for the sale of livestock. More than 6,000 registered dealers assist in the selling. The ratio of marketing agencies to livestock producers is relatively high.

About 1,500 packing plants slaughter livestock and another 1,500 plants process meat for retail sale. In addition, several thousand small locker plants and processors perform certain meat marketing services.[2]

In 1971, 510 cooperatives handled livestock and livestock products. Their annual volume of business came to nearly $2.3 billion.

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[1] *Dr. Carpenter is a professor of agricultural economics at Brigham Young University, Provo, Utah.*

[2] *U.S. Dept. Agr. and meat trade publications.*

MAJOR TRENDS

If one word characterizes the livestock and meat industry during the past two decades, it is change. All segments of the industry have adjusted to meet rapidly changing economic conditions. More changes will take place in the future, most likely at an accelerated rate.

Problems the livestock and meat industry will face in the future are inextricably bound up in a four-way package involving livestock production, feeding, processing, and distribution and retailing -- all interdependent. What takes place in one phase of the industry has important implications for the other segments. It is, therefore, important that major trends taking place in each segment of the industry be reviewed to provide background and perspective for desirable adjustments in organizational structure and/or operations in marketing agencies serving producers.

For the sake of brevity, only the major trends of most significance to livestock cooperatives are presented here.

Producing Units

Production units in both the cattle and hog industry are becoming fewer in number but larger in size. The declining number of farmers raising cattle and/or hogs reflects the trend of the past several years toward large farms and few farmers. In most areas of the country, farms and ranches are getting bigger through purchase or lease of adjoining properties. Also, many multiple units are being acquired by single owners, both private and corporate. This form of horizontal integration is definitely on the increase.

Cattle

Many producing units are becoming specialized in their operations. Some producers specialize in producing feeder calves; others, yearlings, or older cattle for feedlots. Some specialize in preconditioning cattle or calves for feedlots, while others do nothing but feed cattle. Still others are specializing in "warm-up" operations or in backgrounding cattle for sale to feedlots.

The practice commonly called backgrounding appears to be growing. Basically this is a growing program used for feeder cattle prior to the finishing phase. Operators of backgrounding yards typically sell the feeder cattle direct to finishing yards.

Preconditioning is not to be confused with backgrounding.

Preconditioning generally is designed to prevent stress as well as virus and bacterial infection in replacement livestock. (The same term applies to feeder pigs and lambs.) Included in preconditioning are weaning, dehorning, castrating, and immunizing for various diseases. Preconditioning represents value added to feeder cattle or pigs. Most preconditioned animals are marketed by direct sales to finishers.

Because more than 70 percent of all beef produced is fed beef, most segments of the beef-producing industry are geared to supply animals for feedlots.

Improvements in breeding practices give emphasis to the meat-type animal. Emphasis is on performance testing and progeny testing to find animals that will make rapid and economical gains and produce superior quality carcasses with little fat.

As a result of improved husbandry methods, we are seeing high weaning weights for calves, low death losses, and large calf crops. The

The past two decades have seen a significant shift in the proportion of dairy cows to beef cows nationally. In the early 1940's dairy cows outnumbered beef cows more than two to one. Now the ratio is reversed and cattle kept for milk make up less than 20 percent of the total cattle inventory. On January 1, 1972, beef cows numbered 38.7 million head, whereas, milk cows had declined to 12.2 million head.

Since 1955, calf slaughter has declined 65 percent, while cattle slaughter has increased 38 percent. Calf slaughter will likely continue to decline as a high percentage of cattle are fed to mature weights before slaughter. Currently, about 7 million more calves go to feedlots to be fed out for beef as compared with the mid-1950's.

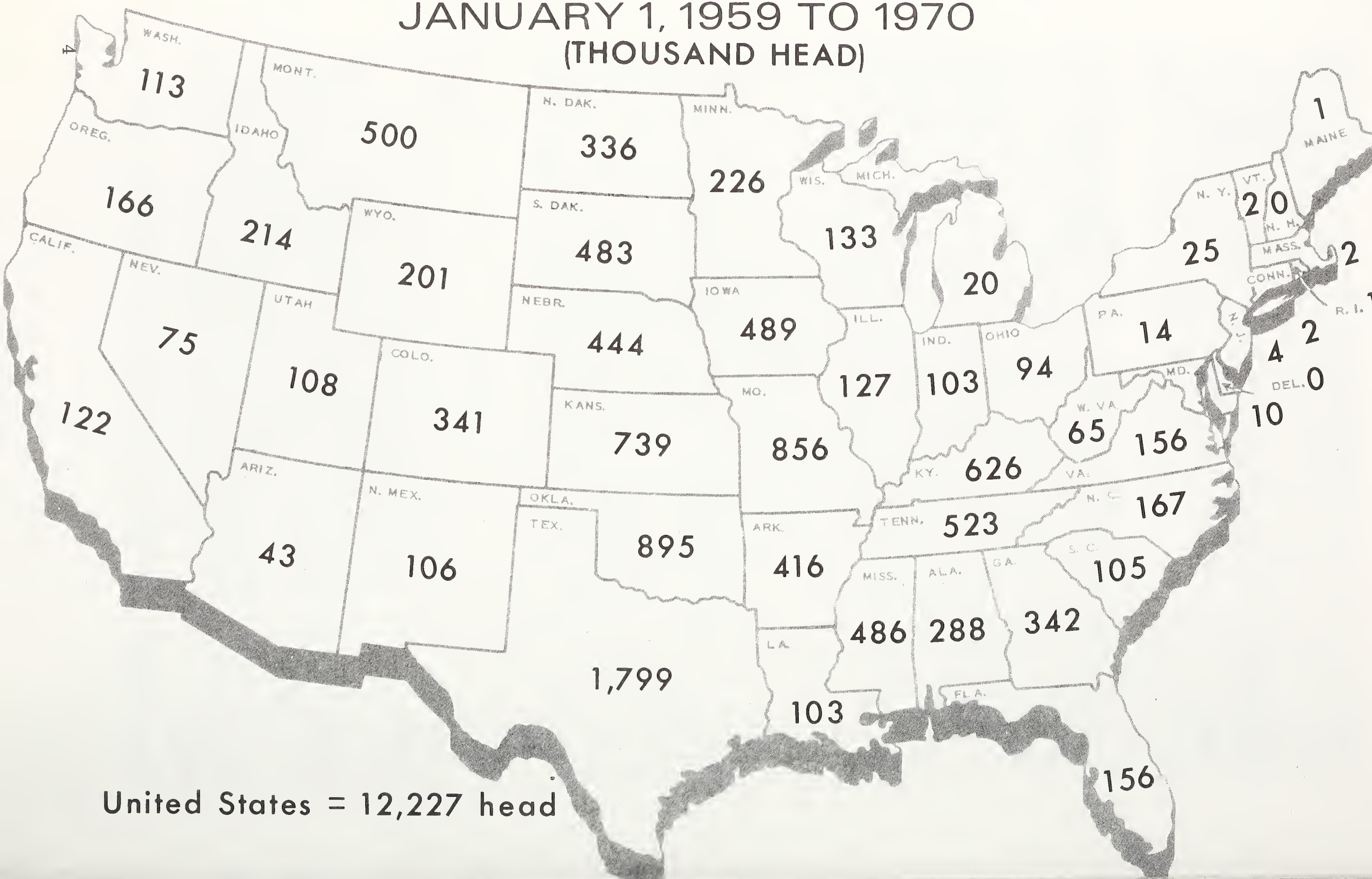
Our present feeding technology is producing very acceptable table beef from cattle that only a few years ago were not considered to be of feeding quality. We have seen an increase in the number of crossbred cattle being fed as well as in the number of steers of dairy origin. These trends will continue.

Figure 1 shows the increase in beef cow numbers by State from 1959 to 1970. The largest increases have been in Texas, Oklahoma, Missouri, Kansas, Kentucky, Tennessee, Montana, and Mississippi, in that order. The greatest potential for increasing beef production is generally in the South and the Plains States.

In recent years, cattle producers in the Southern States have made remarkable progress in improving pastures, disease and pest control, and in greatly improving the quality of cattle. Efforts are expanding to feed more cattle in the South to produce beef for the expanding population. Many southern cattle and calves that formerly moved to midwest or west coast feeding areas now move to nearby Texas or Oklahoma for finishing. More will be backgrounded or finished in the South.

In a recent conference of 13 southern States, the increase in

FIG. 1 INCREASE IN BEEF COW NUMBERS
JANUARY 1, 1959 TO 1970
(THOUSAND HEAD)



breeding cows was projected to 1980.[3] Largest expansion was projected for Mississippi, Tennessee, Georgia, and Kentucky. It was estimated that by 1980 the 13 southern States (including Texas and Oklahoma) would contain 46 percent of the breeding cows in the Nation.

Hogs and Sheep

In 1950, three million farms in the United States raised hogs. By 1970 the number had dropped to less than one million.

The 10 Corn Belt States have accounted for 80 percent of all hogs and pigs sold in recent years. However, these States showed a 60-percent decrease in the number of farms raising hogs between 1959 and 1969. Those that have stayed in hog production have increased their per-farm totals.

On the West Coast, the hog is losing out because higher returns can be obtained in other enterprises and because midwest live hogs and dressed pork products can be shipped to the West Coast at lower cost.

Contract production of hogs has been tried in many areas recently. Feeder pig contracts, set up somewhat like broiler contracts, have appeared in areas on the fringes of the Corn Belt and in the South. Usually a feed-dealer contractor supplies feed, pigs, and general management supervision. The supply of good feeder pigs is often the limiting factor in this type of contract.

Some meat packers are trying various integrated programs for hogs to assure a steady flow of killing animals that meet specifications. In some areas, farmers, through their own cooperatives, are experimenting with integrated programs, but thus far the total production under such programs is not large.

Sheep numbers have declined almost constantly from a peak of more than 56 million head in 1942 to about 18.5 million on January 1, 1972. The largest reduction in total numbers has been in the range herds of the Western States.

Basic reasons for the rapid decline have been (1) rising costs of operation, (2) reduction in available grazing lands, (3) increased losses from predators and difficulties and costs of control, (4) possibilities of higher net returns from alternate use of resources with a shift from sheep to cattle where ranges have been adaptable, (5) increasing competition from other red meats and poultry, and (6) strong competition from synthetic fibers and imports of wool and textiles.

Despite these forces, there has been no basic change in structure of the sheep industry.

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[3] *Carpenter, G. Alvin. 1970 Southern Beef Conference Proceedings. pp. 25-33.*

The rise of commercial cattle feeding has been spectacular, especially since 1950. So called "beef factories" have become familiar sights in several of the Great Plains, Western, and Southwestern States. The largest numerical increases in fed-cattle marketing have been in Texas, Nebraska, Iowa, Kansas, Colorado, and Oklahoma. Since 1960 Texas has tripled its marketings of fed cattle and Kansas and Nebraska have each doubled. Many new feedlots have been established; however, a substantial increase in cattle feeding has been due to expanding feedlot size, rather than increasing the number of lots. Less than 10 percent of the lots now produce more than 50 percent of the total fed beef.

The major shift in cattle feeding had been toward the Central and Southern Plains States, Colorado, Arizona, and California. But recently, the rate of growth in California has slackened while that in Texas, Oklahoma, and Kansas has increased significantly.

With readily available supplies of feeder cattle and calves and with cheaper concentrates, States in the Southwest will continue to give other States, particularly the Pacific Coast, increasing competition.

While the Nation had 13.8 million cattle on feed January 1, 1972, 65 percent were in seven States--Arizona, California, Colorado, Iowa, Kansas, Nebraska, and Texas.

Cattle feeding is becoming a highly specialized, scientific operation. In recent years, emphasis has been toward:

1. Younger, faster gaining animals that are most profitable.
2. Specialized feeding methods.
3. Quick turnover in the feedlots and year-round operation for more efficient use of facilities and equipment.
4. Improved rations and feed additives to reduce cost of gains.
5. Monthly distribution of marketings to help stabilize prices.
6. Direct selling of fat cattle from feedlots to packers to reduce marketing costs.
7. Increased volume fed under contract designed to fit specifications of packers and, in turn, the retail trade.
8. More cattle fed to low- or mid-choice grade (1,000 to 1,100 pounds).
9. Less emphasis on heavy and wasty fat cattle.
10. More feeding of crossbred and plainer-type cattle to keep procurement costs low and because they are more responsive to high concentrate feeds.
11. More reliance on preconditioned or backgrounded cattle and calves.

12. More male dairy calves fed to high quality beef.

13. More cattle marketed at lighter weights of 1,000 to 1,100 pounds.

14. More use of futures markets to safeguard against losses from price fluctuations.

In 1971, of the 168,843 feedlots in the United States, 166,639 or 98.7 percent had under 1,000-head capacity. These smaller lots marketed nearly 10.6 million cattle or 41.7 percent of the total. Feedlots with capacity of 1,000 head or more totaled 2,204. These larger lots accounted for only 1.3 percent of the lots but marketed more than 14.7 million head or 58.3 percent of the cattle.[4]

The finishing of young bulls for slaughter has attracted interest in recent years. Official data are lacking on the extent of its use. Relatively high-feeding efficiency is reported, particularly in rate of gain, but adverse reaction to bull beef is a deterrent to consumer acceptance.

Heifer beef output more than quadrupled during the past 20 years and now makes up about 25 percent of the beef total. As beef animals have become an increasing proportion of total cattle production, more heifers have become available for feeding.

Changes in beef output by grade have reflected the trend of an increasing proportion of higher quality beef as a result of expanded cattle feeding. Production of Choice grade increased threefold during the past 20 years. The output of Choice grade is now about 59 percent, while Good grade has dropped to 16 percent, and Prime is 4 percent of the total. Future changes in beef production by grades are expected to continue in about the same general pattern as in recent years but at a slower rate.[5]

Changes in the geographic location and structure of the cattle feeding industry have altered the movement patterns of feeder cattle. Before 1940, the basic movement pattern was from western range areas and the Southwest to the Corn Belt where most of the cattle feeding occurred. While the 17 western States remain dominant in the production and, therefore, supply of feeder cattle, the South and Southwest have greatly increased their production of feeder cattle and calves in recent years. Competition patterns for procurement of feeder cattle are changing. More feeding will be done in the South and Southwest and competition for sources of feeder supplies will be greater for the Corn Belt and the West Coast.

On January 1, 1972, 18.5 million sheep and lambs were on inventory in the United States. Fifty-three percent of these were in Texas, Wyoming, South Dakota, Colorado, and California.

Of a total of nearly 98.3 million pigs saved in 1971, 60 percent

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[4] *Cattle on Feed Report. U.S. Dept. Agr. Statis. Reptg. Serv. Jan. 19, 1972.*
[5] *Agricultural Handbook No. 423 U.S. Dept. Agri., Econ. Res. Serv. 1971.*

were in the six States of Iowa, Illinois, Missouri, Indiana, Minnesota, and Nebraska. These figures show that the Corn Belt is still nearly dominant in hogs but less dominant in cattle feeding.

Packing Industry

Commercial livestock slaughter increased considerably from 1950 to 1972 reflecting expanding livestock production. Basic changes have been influenced by developments in meat retailing, livestock feeding operations, transportation, rising cost structure, and general competition in the industry. Some of the major trends that have taken place and are likely to continue are:

1. Slaughter plants have decentralized away from large terminal markets and closer to supplies of slaughter livestock. This trend will continue largely because of labor cost and transportation cost advantages.
2. Federally inspected slaughter plants have increased, largely a result of passage of the Wholesome Meat Act in 1968. Concentration of Federally inspected and total commercial slaughter in hands of largest firms has declined since 1950 while the number of new and independent Federally inspected slaughter plants has increased.
3. Specialization in the slaughter of single species, class, and grade to more nearly meet specifications of meat jobbers and the retail trade has increased.
4. Plants have been remodeled to streamline operations, to use more labor-saving equipment, and to adopt new processes to cut per-unit costs; and also to comply with new Federal and State humane slaughter laws and meat inspection regulations.
5. Modernized processing and packaging equipment turns out a wide variety of differentiated meats and meat products containing built-in-maid-services for the homemaker.
6. New and faster methods for curing meat have lessened the amount of work and storage space formerly needed.
7. A continuing trend is toward more deliveries direct from packers to retailers and also from packers direct to the hotel, restaurant, and institutional trade. Some packers are also developing "families of related foods" in combination with meats to service institutional users.
8. The battle of brand names and discussion of the merits or demerits of Federal meat grading continues. Packers are promoting their brand image with consumers to gain and maintain a greater share of the market.
9. Competition among packers for meat orders from large retailers is keen. Packers will be required more and more to produce their

meat to the specifications of big centralized buyers. Twenty years ago, 500 cattle carcasses might have been sold to 50 different retail customers; today they move to five or six big retailers, each requiring larger volume of specified quality and trim on a continuous basis. Accordingly, packer-buyers are generally instructed to purchase only the number and kind of animals that will insure a profit and fit into the special type of merchandising program followed by major outlets. This is an important concept to be recognized by producers and feeders.

10. There will probably be a trend toward more custom feeding by packers or toward other arrangements to assure them a steady supply of specification-type animals for slaughter. A steady supply is important to keep unit processing costs at competitive levels.

11. Slaughtering is in a real sense the interface between the cattle production and beef distribution segments of the industry. Total packer sales volume, traditionally concentrated in the hands of a few large packers, recently has been challenged by relatively small but highly flexible regional packers. Packer-owned branch houses have declined in favor of the more versatile wholesalers and purveyors and a higher proportion of direct sales from packers to large retailers.

12. If present trends prevail, meat packers will continue to increase the volume of direct purchases of cattle and hogs from feeders. There will be an increasing tendency to develop longer-term contract arrangements to assure steady flow of slaughter livestock.

Retail and Distribution Sector

The food industry, with its various ramifications, is the largest business complex in the United States. From within, it is an industry characterized by increasing unit size and decreasing unit numbers. It is rapidly becoming integrated and coordinated in a manner typical of many other large manufacturing businesses. Both chain stores and independents operate in a highly competitive market that keeps profit margins low and emphasizes the importance of volume and quality as keys to success.

Supermarket's specifications have been a big influence in the move toward coordination generally taking place in agriculture. Supermarkets want a continuous flow of high-quality products to serve their mass distribution outlets. Meat retailers today are moving in the direction of specifying what they want by way of animal type, weight, quality, and trim. Production and feeding decisions must be made in terms of the particular demands of the market. Closer coordinated efforts of producer, feeder, and processor are required to meet the growing specifications of the retail market.

Other trends taking place in the retail distribution sector are:

1. The share of the market handled by chain stores is likely to increase. There also will be increased purchases of meat by voluntary and cooperative groups and grocery wholesalers. By 1980, most meat will be purchased by some type of group buyers. These buyers will be fewer in number but will buy larger quantities; thus, increased bargaining power will be in the hands of retailers.

2. Individual retail accounts will become larger, and loss of such accounts would create temporary difficulties for suppliers. Thus they will compete more intensively for these retail outlets.

3. More retail chains may find it advisable to move cutting and processing operations out of individual stores to central warehouse facilities or even back to the packing plant. The speed with which this is done will depend greatly upon the rate of adoption of appropriate technology. Central cutting and packaging will come. It is only a matter of time. Meat cutters are scarce and costly. Mechanization and volume handling at central points will cut costs greatly. It makes good sense for the packer to do this job of central cutting and packaging because if he does not do it, the retailers will.

Temperature and quality control, important under the increasing requirements of the Wholesome Food Act, are maintained more easily and cheaply at central points.

4. All these trends in retailing mean two major things: (a) More and more meat will be bought on specifications and these specifications will be more rigidly and strongly enforced; and (b) Individual buyers will seek larger quantities of meat each week that fit their particular specifications.

5. We will likely see more vacuum packing of meats to reduce waste and lengthen shelf-life. More processed meats and more frozen meats and meat products will be tried.

6. Most of these developments will shift more of the market power, formerly centered at the packer level, toward the retail level. The concentration of market power at retail will be reflected back through the industry to the livestock producer.

7. Large retailers will try to develop their own private labels for meat products as contrasted with packer labels. This may lead to more vertically coordinated production and marketing arrangements that link together the retailer, the processor, and the cattle producer or feeder.

CHANGES IN MARKETING

Changes are taking place in all phases of livestock and meat marketing -- in the market structure itself, in grading and pricing, and

in the transportation of livestock and movement of meat. In addition, technological developments continually challenge producers and packers to adapt to new ways of doing business.

Market Structure

A changing market structure confronts livestock producers and their cooperatives. Present industry trends indicate that direct selling will increase at the expense of other channels of marketing, particularly terminal markets. The locational advantages terminal markets once enjoyed have been modified by a reorientation of livestock and meat marketing organizations throughout the United States. Since World War II, the industry has changed from a localized distribution system of many minor markets and supply areas to a highly commercialized national carlot-volume distribution system.

The degree of specialization by packers with respect to market area, type of customer, product handled, and services rendered is much more important in the market structure today than size. The heart or control system of the beef industry today consists of (1) large-scale feedlots selling on a continuing basis possibly with standing arrangements to (2) relatively large shipper-type independent wholesale beef packers shipping in carlot quantities directly to (3) retail food chains both corporate and affiliated and wholesale beef breakers.[6]

In many areas large feedlots have taken the leadership in altering the traditional market channels for slaughter cattle. In California, for example, over 90 percent of all cattle sold from feedlots are priced and sold at the feedlot.

Some large feedlots have become markets in themselves and they provide producers with more services than those performed by cooperatives and other traditional marketing agencies. Such feed yards with skilled personnel represent some livestock speculators and producers in arranging credit, buying feeders and feeding livestock, and dealing directly with packers for selling slaughter livestock.

The next logical step, which is already developing in many areas, is vertical integration of packers and feedlots largely through contractual arrangements. Competitive pressures are developing in some areas for centralized and large-volume hog-feeding units. With rising demands for quality and uniformity in pork, and considering the capital requirements involved, vertical integration in hog production and marketing could become more important. Direct-to-packer selling of hogs and lambs as well as of fat cattle is well established.

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[6] *Williams, Willard F. Implications of Developments in Pricing Structure of the Livestock-Meat Economy. N.C. Regional Res. Pub. 199. Ohio Agr. Res. and Dev. Center, Wooster, Mar. 1970. p. 153.*

Contractual arrangements in buying and feeding lambs is also common.

Vertical integration trends are rather conspicuous by their absence among cooperatives. Here is a great opportunity for cooperations to serve the best interests of their producers, but it will require aggressiveness and managerial ability.

Direct marketing has grown rapidly in recent years. For example, in 1950, 75 percent of the Nation's cattle and a high proportion of the hogs were sold through the terminal markets. But by 1970 only 18.4 percent of the cattle and 17 percent of the hogs purchased by packers went through the terminals. Country buyers and direct sales accounted for 65.3 percent of the cattle and 68.5 percent of the hogs, while auctions handled only 16.3 percent of the cattle and 14.3 percent of the hogs purchased by packers.[7]

By-passing terminals has caused serious problems in the use of resources both for cooperatives and other marketing firms operating there and for the stockyard companies. Many firms formerly dependent on the terminals for volume must take drastic adjustments to phase out their business.

Auction markets also have volume problems. There are too many auctions and the smaller ones have high operating costs per unit handled. Some auctions lack competition and don't draw enough buyers. Many auctions do not appeal to the livestock man selling large lots of graded animals of the same general weight and quality. Auction selling has perhaps reached its peak and will continue in a downward trend as more livestock from larger units move direct. The auction method of selling fat cattle is often too slow, too time-consuming, and too expensive for both buyer and seller.

The number of marketing points for hogs and cattle are excessive, especially so in the Corn Belt. It is reported, for example, there are 372 different places to sell hogs in the state of Illinois.[8] The result of this dispersion of markets is that competition does not force the buyer to pay for better quality. Also, too many people are involved in the marketing process, which inflates costs. The burden usually is borne by producers in the form of lower prices. If these marketing points could be consolidated in some fashion, it would be possible to use computers and centralized buying so that packers could sit in their own offices, purchase hogs and cattle from hundreds of miles away, and make immediate payment to the farmer in his own bank. This degree of sophistication may never be reached but it is technically possible. The challenge is for the industry to work it out.

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[7] *Source--Resume, U.S. Dept. Agr. Packers and Stockyards Administration, Nov. 29. 1971*

[8] *A.E.R.R. 110. May 1971. Dept. of Agr. Econ., Univ. of Ill., Urbana.*

Pricing

Problems of pricing livestock and meat under the newer forms of exchange appear to be among the toughest facing the livestock industry. Further increases in direct marketing, in sales on a carcass grade and yield basis, in contract sales to packers, in integrated production operations, and in formula pricing at wholesale all present problems in both price discovery and price reporting.

The problem of price determination in the livestock and meat industry was aptly described by the National Commission on Food Marketing as follows:

> "The pricing of livestock and meat historically has been a relatively imprecise process. Quality characteristics are difficult to identify and measure accurately. Central markets have declined in significance. These considerations probably have enhanced the development of vertical integration by firms seeking more efficiency in the transfer of livestock and meat from one party to another. But greater vertical coordination has also added to the problem of determining exchange values. And with formula pricing, fast and accurate knowledge of actual supply and demand forces become even more difficult to obtain.
>
> "Added to these problems of efficiency and effectiveness in discovering equilibrium prices is the associated problem of communicating timely and reliable information about prices. Greater and more accurate product knowledge and market knowledge are needed for this purpose. Pricing and other exchange procedures will require increasing evaluation and supervision, considering the key importance they play in allocating resources and distributing income in the changing livestock-meat economy."[9]

An ideal marketing system might be described as an operationally efficient processing and handling system that maintains sufficient competition, or pricing effectiveness, to reflect accurately market demand for livestock and livestock products. If the information producers receive through market prices for their livestock does not reflect actual consumer demand, then forthcoming production likewise will not meet the needs of the marketing system.

Considerable evidence indicates that many present and past methods of market price determination and dissemination have failed to accurately reflect consumer demands back to livestock feeders and producers. The difficulties in feeder cattle pricing and periodic gluts of heavy lambs or cattle grading prime are examples of this problem.

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[9] *Food From Farmer to Consumer. Report of National Commission of Food Marketing. June, 1966, p. 29.*

They illustrate the need for further, more specific information on quality and quantity of the various species of livestock marketed.

People in the industry are saying slaughter livestock should be sold on a grade-and-yield quality basis in line with wholesale meat quotations. Such a method can reduce risk and provide detailed feedback on grade and yield. The producer is paid on the basis of a predetermined price per pound depending on the Federal grade of his livestock after slaughter.

Since 1962, the livestock and meat industry has been trying a new approach to beef grading and pricing--a dual grading system for beef carcasses that provides for two separate grade identifications on carcasses: (1) a quality grade that indicates palatability of meat--reflecting factors associated with tenderness, juiciness, and flavor--and that has been widely used for more than 25 years, and (2) a quantity grade reflecting the "cutability"--the percentage of salable meat the retailer can cut from the carcass.

The volume of dual-graded beef has been increasing gradually until in 1971 it amounted to about 30 percent of that officially graded.[10]

Dual grading for lambs also has been increasing in recent years. Tests and cut-out demonstrations for beef and lamb carcasses have shown wide cutability differences and, consequently, wide variations in total retail value. Some tests have shown value differences of $6 to $7 per hundredweight for beef carcasses having a yield grade of 1 compared with a yield grade of 5. Lamb carcasses have shown similar variations.

If generally adopted for both beef and lamb carcasses, this dual grading program would provide greater financial incentive for livestockmen to produce the type of meat retailers and consumers want.

In today's market, quality and cutability strongly influence the ultimate value of the beef or lamb carcass. The dual grading system takes both into account. It provides a precise market identification for carcasses and also applies to live animals. It, therefore, furnishes the means for an accurate reflection of consumer preferences back through the marketing channels to the producer.

The dual grading system, if properly applied, should result in the producer being paid for livestock more nearly in line with meat value at the retail-consumer level. More important, it would encourage production of meat-type cattle and lambs with carcasses that combine high-quality meat with thickness of muscling and a minimum of fat. Excess fat is expensive to produce and is not desired by the consumer; therefore, the marketing and pricing system should be changed to avoid emphasizing wasteful production practices. If such changes in the marketing and pricing system are to benefit

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[10] *Livestock Market News statistics. Weekly issues. 1971.*

producers, they must become more involved in bringing about such changes--no one else will.

Transportation

Precise data on the amount and type of transportation of cattle and hogs from birth to slaughter and from slaughter to ultimate consumption are generally lacking. However, information gathered from interviews and current literature indicates such movements probably are far more extensive than necessary or economical.

Feedlots in the Corn Belt and Northern Plains predominantly demand heavy, high-quality feeders that are supplied from ranches and farms in the West. Feedlots in the Mountain States use mainly locally produced cattle. Feedlots in the eastern Corn Belt obtain feeders locally and from the East and Southeast. Southern plains feedlots usually get supplies from Texas, Oklahoma, and the South.

Rapid development of commercial feedlots and feeding patterns has influenced a heavy westward movement of feeders from the South that has increased cattle production in that area in recent years.

It is apparent that both livestock and meat frequently take circuitous routes to market. While such backhauls, crosshauls, and detours are often necessary to keep price, demand, and supply balanced, they could perhaps be eliminated in many cases with substantial savings.

Costs incurred in the unnecessary movement of livestock from one place to another (particularly when the livestock is sold) compose a substantial portion of the total annual agricultural transportation bill. These costs include:

1. Assembling and loading the livestock.
2. Loss of weight gain while the animals are not grazing or being fed.
3. Shrinkage enroute.
4. Losses due to bruising, disease, or death.
5. Unloading and selling costs such as commissions and yardage fees.
6. Risks of financial loss should payment not be made.
7. Cost of hauling the animals.
8. Costs of labor to handle the animals and the paper work involved.

These costs add up to several dollars per head even on a short haul and may actually exceed the sales price. In some instances cattle--from the range to slaughter--may change hands seven or eight times. Some cattle in their lifetime may be transported more than 1,000 miles at freight charges exceeding $10 per head. In addition to the cost of transportation, there may be seven to eight loadings and

unloadings and the cattle could change ownership as many as four times. These costs could equal or exceed the transportation cost, adding at least another $10 per head.[11]

Movement of fresh beef and other meat products from packing house to consumer is also complex and costly. This process includes loading, unloading, materials handling, hauling charges, shrinkage, spoilage, and, if the fresh beef passes through several owners' hands, additional markups and paperwork charges for each sale.

After interviewing industry leaders and reviewing current literature, it appears the current trend in the ranch-to-packinghouse segment of the cattle and fresh beef distribution industry will continue. This trend represents a shift toward geographically and/or functionally integrated breeding, feeding, and slaughter and corresponding reductions in transportation and handling costs.

New Technology

In the not too distant future, additional technological changes could greatly influence livestock and meat marketing.

Rising prices and narrowing competitive margins often provide incentives for technological breakthroughs that provide the means of transition from untenable positions to rich new markets.

This may be illustrated by three basic developments in the meat industry in the 1960's--perishability control, palatability control, and nonmeat substitutes. In lay language, this means freeze-drying, enzymes, and synthetic meats from soybeans and other high protein materials. The first of these provides an alternative to refrigeration and produces great savings in storage costs. The second may provide eating qualities in meat that customarily are associated with fed beef of high quality. Nonmeat substitutes represent an effort to break away from market constraints in the meat industry and into new product markets.

New technology coming into wide use can alter many established patterns in the meat industry. For example, what kind of new food services should be developed if the need for cold storage were overcome? What would happen in the meat industry if choice eating quality could be obtained in standard beef? If cattle feeding were reduced, what would happen to the price of feed grains or the value of land that produces them?

If such innovations were to develop in the livestock-meat economy, producers would face drastic changes in their production and marketing method. Those unable to adjust would be at a disadvantage.

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[11] *Progressive Farmer, Nov. 1970, Dallas, Tex., for examples.*

IMPLICATIONS FOR LIVESTOCK PRODUCERS AND COOPERATIVES

What is to become of livestock cooperatives in the future? Will they cling to the traditional marketing system, that has been eroding before their eyes, or will they make changes to meet emerging conditions?

Each cooperative needs to answer these basic questions realistically:

1. What kind of business will we be in 10 years from now?
2. Are we doing the necessary planning *now* to keep our business competitive and growing?

No one wants to undertake change just for the sake of change itself, but constructive change is either a defense against decline or it is a positive move to take what is good and make it better.

Kenneth Monfort, a prominent meat packer of Greeley, Colo., had this to say in the April 1972 issue of Western Livestock Journal:

"Our industry has for years been a stronghold of conservative action and conservative beliefs. But it is changing so very fast. Don't relate us with the political system or the educational system. In the cattle industry or the meat industry there is no tenure, no civil service, and no seniority. Ours is an industry crying out for and accepting new ideas and methods."

In view of the rapid changes taking place, it behooves all cooperatives serving stockmen to evaluate the services they are now providing. Are they doing the job or must new services be added and old services modified or eliminated? Many marketing improvements originally initiated by livestock cooperatives have been adopted by their competitors who now offer sharper competition. Rapid changes and innovations can convert firms that are efficient today into inefficient, out-of- date firms tomorrow. Prompt adjustment to basic economic changes in an industry is essential to survival, and this is important not only for the livestock man himself but also for the marketing agency representing him.

New Methods and Procedures

With the increasing trend toward direct marketing, cooperatives must develop methods and procedures for representing the producer effectively in the movement of livestock direct from farms or ranches

to feedlots and from feedlots to packers. Full supply contracts with packers for hogs and slaughter cattle must be developed and implemented.

Although some cooperatives have programs of this type underway, additional efforts should be made to make them workable. Packers are looking for reliable supplies of livestock that will meet their specifications and more initiative should be taken to develop programs and pricing formulas that will be mutually satisfactory. If producers and/or their cooperatives don't initiate these types of programs, someone else will.

The systems approach, or vertical integration in various forms, is one of the major forces shaping the future of agriculture and the livestock business. Livestock men have the same tools available for integration as do outside interests but unless they commit themselves and are aggressive, someone else will beat them to it. It is difficult to see how cooperatives can remain aloof from vertical coordination programs if they expect to gain greater control of livestock at all levels from production through distribution to the consumer. Contracts, leases, custom arrangements, joint ventures, limited partnerships, and the like are all tools that must be used effectively.

The growth area for cooperatives in the future lies in coordinating production and marketing in combination with the developing food merchandising systems. Organizations successful in this area will evolve into centralized regional or national firms serving commercial stockmen, whose livestock flow in similar marketing channels from farm to consumer. These organizations will assure their members both a market and a major voice in key decisions affecting their industry. Through contract, joint venture, and outright ownership, they will control more of the production inputs used by their members as well as the marketing and processing of members' livestock. Farmland Industries, Agway, Gold Kist, Southern States, Landmark, and several other large cooperatives are examples of what is being done. Livestock cooperatives can do the same type of thing if producers commit themselves to their cooperative and support sound and aggressive leadership.

The cooperative form of business structure has great possibilities for developing a well-balanced integrated program to coordinate production, feeding, slaughter, and distribution of livestock and meat. The big uncertainty is the human element--the willingness of producers to unite on a common front and commit themselves to a program of action. Such action might be one of partial integration, or one of moving and controlling the product further toward the consumer. A guaranteed volume through a cooperative association by use of a membership marketing agreement can provide great opportunity for leadership in quality improvement and cost reduction. Bargaining for price and other terms of sale, as well as more

accurate budgeting of income and expenses, can also be achieved to a great degree.

If the cattle and/or hog industry becomes integrated and producers and feeders produce not for their own account but under contract, they most likely would organize for collective bargaining. A contractural livestock industry would lend itself to bargaining. If bargaining were to be effective, it would mean sign up and commitment of volume by producers--something livestock producers in the past have been rather unwilling to do.

If contracting and other forms of integration and coordination continue to expand, negotiation and formula pricing will become more important. Large commercial feeders may be able to negotiate terms of sale advantageously, whereas small feeders may be less able to do so. Small producers and farm feeders may seek various forms of legislation to offset advantages of the larger integrated operators. An alternative to the legislative approach would be strong bargaining associations to help negotiate sales. Such has been the practice for many years with producers of vegetables, fruits, and other crops for processing.

Production and marketing contracts may not be common machinery on livestock farms as yet, but conditions are developing that warrant their increased use. Through contracts and other means of integration, production will be increasingly geared to a more regular, stabilized, and exacting market to get away from the hit-or-miss methods that cause vacillations in supply and quality.

Specification buying is increasing throughout the livestock and meat industry. It seems that the logical business-like way for the livestock producer or feeder to meet such a trend is with "specification selling" on a volume basis. If the producer is not able to do this independently, contract production, or various other forms of coordinated effort, might help him achieve higher net income. Coordination in the livestock industry can result in increased production and distribution efficiency. There is little doubt that a well-coordinated livestock production, feeding, and marketing industry can meet the specifications of the market precisely and with greater profit than an industry with each independent segment striving to do its own thing in its own way.

In the future, production decisions must be more closely related to market needs. Producers who make such decisions will benefit. Those who do not will likely be penalized in the market. Many buyers who need volume, uniformity, quality, continued supply, and definite delivery dates will pay for what they need and producers are likely to be rewarded for helping such buyers meet their requirements. A well-organized and functioning cooperative can do such a job for producers.

One important implication of the changes in market structure is

that the producer will produce less for the open market and more for a market where the buyer has more to say about grade, quality, and terms of purchase. The demand by buyers for livestock is being made in terms of a much narrower range of specifications. Therefore, to be successful, producers will need to produce and market their livestock to exact specifications. Livestock cooperatives will need to become involved in guiding production practices and assisting producers to meet market specifications. Coordination of supplies to meet specific needs of markets will be important to minimize price fluctuations.

Competition

The competition among local auctions, private traders, and existing marketing agencies will continue to grow as the number of production units and cattle and hog feeders declines and as size of individual operations increases. As competition continues and as livestock moves direct, lot size may decline further in markets operated by cooperatives. Costs and charges may have to go up causing further injury to volume. Cooperatives thus affected will need to consider consolidation or mergers, establishing new and improved services and operations, or other innovations to adjust to declining volumes.

Although cooperatives are sometimes caught in the web of pressure by members for more market outlets or urged to maintain existing markets when they are no longer profitable, the realities of economics dictate that market facilities must pay their way to justify member capital being tied up in such facilities. Careful economic feasibility studies of new markets should be made before committing funds, and careful study should be made to see if existing facilities justify continuance.

In some areas of the country, particularly the South and Southwest where livestock production is increasing significantly, new auctions and concentration points may be needed. Establishment or expansion of coöperatives in those areas could supply improved marketing services for the local producer and the Corn Belt and Southwest feeder. Cooperatives should move aggressively to conduct feasibility studies in those areas.

Farm feeders are being challenged by the innovations in the commercial cattle feeding industry. Advantages for farm feeders using of their own labor and feed supply and lower investment costs are offset by economies of size and scale and professional management of commercial feedlots. Consistency, continuity, and volume in feeding and marketing by the commercial feedlot, as contrasted with the farm feeder, give the commercial operator a decided advantage in production and marketing. The relatively higher production and

marketing costs of many small operators and the limited numbers of variable quality cattle complicate their ability to compete. In view of these circumstances, there should be greater incentive than before for smaller producers to organize themselves into effective bargaining associations to increase their power when selling livestock.

Commercial feedlots now feed and market direct more than 50 percent of all cattle fed. Instead of trying to reverse the flow to direct marketing, cooperatives might better give more attention to developing procurement and marketing programs to fit the needs of large commercial feedlots. This can be done through more order-buying of feedlot replacement cattle, by order-selling finished animals, by representing producers of backgrounded or preconditioned cattle for sale to feedlots, and by performing other services that may be needed.

In recent years, more nonfarm interests have become involved in the livestock industry, some because of certain tax advantages and others because of the rate of return on investment. Many professional people--such as doctors, lawyers, and businessmen--have different points of view and are willing to try new ideas in marketing; whereas, the traditional operator often prides himself on being an individual, making all his own decisions regardless of the effect on the total industry. Many opportunities exist for cooperatives to develop management services for such newcomers to the industry. Services might include supplying replacements for breeding and feeding; supervising feeding; selling finished livestock; and the like. Such management services are increasingly supplied by professional consultants. They can be supplied by livestock cooperatives if pushed aggressively.

Grade and Yield Guidelines

The practice of selling livestock on a grade-and-yield basis is increasing. As dual grading expands, the yield or cutability grade is being included in carcass selling arrangements for slaughter cattle and lambs. Generally, if yield is included in selling arrangements, it is on the basis of USDA numerical grades 1 to 5 and tied in with USDA quality grades.

Marketing livestock on the basis of the carcass presents particular problems because of lack of uniformity among slaughterers in methods and terms of the transaction. A definite and effective system needs to be developed to safeguard the interests of producer-feeders. Such a system or method should include accurately identifying ownership of animals (number, weight, and price of each carcass, and record of any condemnations); how weights and grades will be determined; and how each carcass value will be determined.

The method and time of payment should be clearly established in line with established Packer and Stockyards Administration standards.

Livestock cooperatives throughout the United States could take the lead in developing guidelines and definite procedures for marketing livestock on a grade and yield basis. Such an improved method of marketing could compensate producers supplying better quality animals having the high cutability desired by the market. Faster progress in producing meat-type hogs and cattle with high cutability can be achieved if producers of high quality animals are assured of premium price for their efforts.

Because marketing by grade and yield reflects the true value of the animal, from the market preference standpoint, expanded use of this method is likely to bring greater returns to progressive livestock producers and satisfaction to retailers and consumers. Therefore, it is important that cooperatives be aggressive and lead the way in improving this marketing system for meat-type animals.

Cost Reduction

Truck handling of livestock has replaced rail handling in most areas of the country. Often, however, the truck operator has become a speculator-buyer or exerts a pronounced influence as to where and through what outlet livestock moves to market. Livestock often take circuitous routes to their ultimate destination and are handled too many times by too many people. The added costs and margins from this extra handling and transporting are taken from the net proceeds to producers.

Producers and cooperatives should be vitally concerned in reducing transportation and handling costs. They should be more interested in seeing that truck transportation works for their benefit instead of some packer or private buying agency. Cooperatives might consider owning or leasing their own trucks and developing programs to haul livestock for producer members on a full-load cooperative basis. Such programs could reduce unnecessary transportation, changes of title, and unnecessary handling of livestock.

One big challenge in improving marketing is eliminating waste. Reducing waste of time, materials, and handling between the farmer and the consumer is a gain for both. Waste in unnecessary transactions and labor, wastes in transportation, use of capital, uncontrolled distribution and gluts; and the like all increase marketing costs. The basic function of an efficient marketing agency is to shorten the route between producer and consumer. The cooperative is a useful tool in doing that job, when it is efficiently organized and operated.

CONCLUSIONS

Cooperatives have played an important role in marketing livestock the past 50 years. The rolé they play in future decades will be largely governed by the extent to which they can (1) adjust effectively to changing conditions, (2) fit themselves into emerging patterns of livestock marketing, and (3) perform worthwhile services to producers and other important segments of the livestock-meat complex.

The emerging systems offer additional opportunities for direct participation by cooperatives, but cooperative leadership must be aggressive in pursuing such opportunities. Moreover, with direct marketing accounting for increasing percentages of total shipments, the demand for producer bargaining organizations may rise. Effective marketing for farmers is a group activity. Few livestock producers have volume enough to influence the market very much acting alone. Group activity becomes meaningful only through organization based on sound programs.

Success for livestock cooperatives in the future calls for unbiased clear thinking, commitment of membership volume, careful planning, and bold leadership to develop coordinated programs that will work for producers instead of for someone else. In some instances it may call for a blending of operations with other cooperative groups and/or private firms.

The road to improved bargaining power and improved marketing may be difficult. But make no mistake about it. If improvements are to be made for the producer, producers themselves will have to work together to do it. No one else will. The cattle industry, for example, could determine its own future if it could present a common front. But livestock producers cannot do it if they insist on acting individually and independently. Debating instead of innovating will not solve today's marketing problems.

The livestock and meat industry will not remain static and organization or individual who does not adjust to change will not remain competitive for long. Forward-looking cooperatives, to survive and provide their members with continued good service, must have:

1. Keen sensitivity to changing needs of the industry and the market.
2. Willingness of members to unite on a common front and commit themselves to a common program of action.
3. Aggressive, alert, efficient farmer leadership and professional management.

Of these three points, the firm commitment of the individual to

his cooperative is the most important element for success. With these factors present, it is very possible that cooperatives can meet the challenge ahead in livestock marketing. There is nothing more permanent than change. The basic decision for farmers and livestockmen is to adjust to change. Will they resist change and go down fighting it or learn to adjust and survive?

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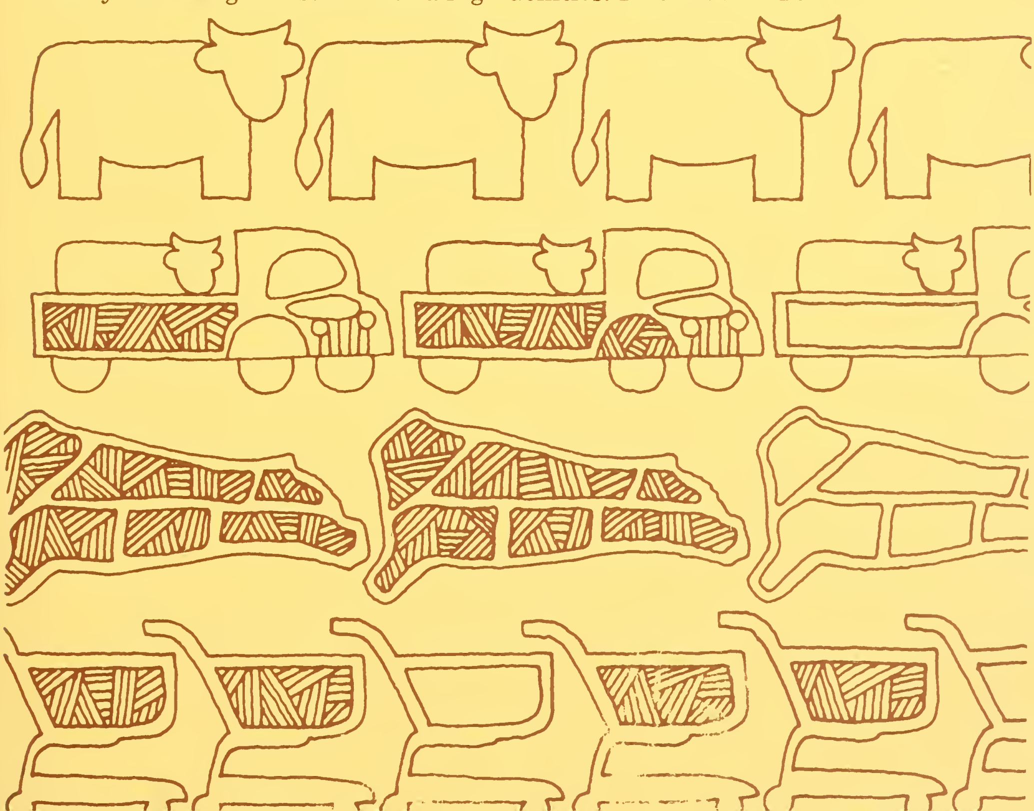

FARMER COOPERATIVE SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Farmer Cooperative Service provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The Service (1) helps farmers and other rural residents obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

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